

“TH’ UNITED SENSE OF TH’ UNIVERSE”: ATHANASIUS KIRCHER IN PIAZZA NAVONA

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For Joseph Connors

Rome shows in whole and parcels all the Rubble
Of wasted Aegypt, giving pleasant trouble,
And most sweet rack to wits, to know, and see
 The mangled parent of Antiquitie:
Aegypt, mother of arts, where better might
 Than here, i’ th’ lapp of science, take delight
Gather’d in Rome, dismembered? perhaps too
 Appeare far brighter, then did ever doe . . .
This is th’ united sense of th’ Universe
 Though differing tongues it many ways reherse.

James Alban Gibbes, M.D. and poet laureate (1611–1677)
Dedicatory poem to Athanasius Kircher, *Oedipus Aegyptiacus*,
p. +++++ 2r

In 1651 Rome’s Piazza Navona saw the final flourishes completed on what has become its most beloved feature, the Fountain of the Four Rivers (fig. 1), designed by Gian Lorenzo Bernini and topped by an Egyptian obelisk originally dedicated to the emperor Domitian. The project’s driving spirit was the reigning pope, Innocent X Pamphili, abetted as often by his domineering sister-in-law, Donna Olimpia Maidalchini; it was she who was rumored to have imposed Bernini as architect of the fountain in place of the pope’s favorite, Francesco Borromini. The enterprise boasted a unique scholarly contributor as well: the German Jesuit Athanasius Kircher, whose task it had been to translate the obelisk’s hieroglyphic inscriptions—a century and a half before the discovery of the Rosetta Stone. To many people’s minds he had succeeded.

Kircher issued a full text of his translation in a treatise he called *Obeliscus Pamphilii* (*The Pamphili Obelisk*), published in Rome in October 1650 (fig. 2). He still had time, therefore, to take advantage of the waning Jubilee Year and its flocks of pilgrims, for now that the bitter struggle between Catholics and Protestants known as the Thirty Years’ War had been brought to an end (in 1648), travel through Europe was more secure than it had been for a generation. Kircher himself had grown up amid the ravages of that war, a refugee who had ultimately found his permanent home from 1634 onward in the Jesuits’ Roman College. He had come at first to take up a chair in mathematics, but had since been able to adjust his position until he had become one of the city’s living monuments, a master of many trades who regarded the world through alternating bursts of frenetic activity and fits of trancelike rapture. Ensconced within an ever-expanding museum on the premises of the Jesuit College,

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Fig. 1. Piazza Navona with the Fountain of the Four Rivers (photo Fototeca Unione, American Academy in Rome).

he directed a cadre of devoted students and received illustrious visitors despite his paralyzing shyness, addressing them in more than a dozen languages, engaging in scientific experiments, inventing clever machines to tantalize their five senses, their hearts, and their intellects. A tireless correspondent, he engaged every part of the globe in an endless conversation, relying on the web of Jesuit missions that extended throughout Europe, Asia, Africa, and the New World.

Kircher's reputation had been growing steadily since his move to Rome; by the time he published *Obeliscus Pamphilii*, he was forty-eight years old and had already written several books, on subjects ranging from magnetism to the Coptic language and its possible relationship with ancient Egyptian hieroglyphs. He had also written pamphlets describing some of his mechanical inventions. *Obeliscus Pamphilii*, however, represented a new degree of ambition, both as a physical object and as an intellectual enterprise. A folio volume of five hundred pages, it was impressive simply for its bulk, but *Obeliscus Pamphilii* was also an exceedingly well-made book. Publication had been delayed until Kircher could employ the fine set of Arabic type he had been promised for years from the grand duke of Tuscany but only received in 1650. The best engravers in Rome provided illustrations, lavishing their greatest skill on a full-page portrait of the pope and a foldout view of the Pamphili obelisk from all four sides.

Because of its topical references to the obelisk's placement on the new Bernini fountain and to the Jubilee Year, *Obeliscus Pamphilii* appeared to fall into a category now known as festival books, showy but ephemeral commemorative works that were issued as souvenirs on special occasions such as weddings, coronations, funerals, and state visits. But Kircher's

ATHANASII KIRCHERI
 E S O C . I E S V
O B E L I S C V S
P A M P H I L I V S.
 H O C E S T ,
I N T E R P R E T A T I O
 Noua & hucusque intentata
O B E L I S C I H I E R O G L Y P H I C I
 Quem non ita pridem ex Veteri Hippodromo Antonini Caracallæ
 Cæsaris , in Agonale Forum transtulit, integritati restituit ,
 & in Vrbis Æternæ ornamentum erexit
I N N O C E N T I V S X .
P O N T . M A X .

In quo post varia Ægyptiacæ , Chaldaicæ , Hebraicæ , Græcanicæ Antiquitatis ,
 doctrinæque quæ Sacræ , quæ Profanæ monumenta , Veterum tandem
 Theologia , hieroglyphicis inuoluta symbolis , detecta
 è tenebris in lucem afferitur .



R O M Æ , Typis Ludouici Grignani : Anno Jubilei MDCL
 S V P E R I O R V M P E R M I S S V .

*Fig. 2. Athanasius Kircher, *Obeliscus Pamphiliius*, title page (1650)
 (photo courtesy of the Department of Special Collections, Getty Research Institute).*

actual designs were far more ambitious. Using a modus operandi that served him well throughout a life of incessant productivity, he exploited this publication to advertise the next, which was to be an exhaustive four-volume treatise on ancient Egypt. He had already devised the title of this magnum opus in the 1630s: *Oedipus Aegyptiacus*, “The Egyptian Oedipus,” a conceit that allowed Kircher himself to figure as a new version of the Greek hero, come to solve the riddle of the Sphinx. He would call the final publication “a Work born of twenty years of a continuous mental firestorm.”¹ Printing it was expensive; eventually *Oedipus Aegyptiacus* would run to four folio volumes, each one copiously illustrated, and the process of production would require two years (the title page stated 1652–1654, but the Roman press of Vitale Mascardi was still busy into 1655). *Obeliscus Pamphiliius* was the vehicle by which Kircher hoped to attract sponsors for this larger project, and he had already carefully targeted a series of potential patrons. The pope, the emperor of Austria, and the grand duke of Tuscany, enlisted to underwrite *Obeliscus Pamphiliius* itself, were first among them. It also seems virtually certain that Kircher aimed this shorter, but still impressive work at his old friend, Fabio Chigi of Siena, an ambitious prelate (and future pope) who was serving as papal nuncio in Germany. Chigi’s interests coincided with many of Kircher’s across a phenomenal range of subjects; he was a highly intelligent and also a critical reader. Innocent X also admired Chigi; in 1651 the pope would summon his nuncio to Rome to accept a cardinal’s hat and the position of secretary of state. For such a discerning public, Kircher made the text of *Obeliscus Pamphiliius* both substantial and, by the standards of his rhetorical age, concise.

Obeliscus Pamphiliius went to press, in short, not only to commemorate a fountain already constructed, and a Holy Year nearly over, but also to make a larger and lasting statement about Athanasius Kircher’s entire learned enterprise, both in the Rome of Innocent X and in the world of which papal Rome still styled itself the head. Although Kircher’s translation of the inscriptions on the obelisk of Domitian provided the initial pretext for writing *Obeliscus Pamphiliius*, the translation itself took up only the last fifth of the book. First (after a series of properly deferential dedications to the pope, the emperor, and “Readers experienced in Recondite Literature”—who may, for all practical purposes, have been embodied in Fabio Chigi), Kircher supplied a history of the obelisk.² His account differs markedly from that of modern scholars. The obelisk as we know it was hewn from the quarries of Aswan on express order of the Roman emperor Domitian and immediately shipped to Italy, for probable installation in the precinct of Isis in the Campus Martius. There Domitian had undertaken a massive project of restoration, for the controversial sanctuary to the foreign gods Isis and Serapis had been destroyed by previous senatorial decree and ravaged by the Tiber’s periodic floods. The obelisk may well have been inscribed in Rome itself, in somewhat peculiar Romanized hieroglyphs. Contemporary understanding of its history then suggests that in the very first years of the fourth century, Emperor Maxentius moved Domitian’s spire from its urban site to adorn the spine of a circus he had constructed outside the city walls on the Appian Way, as a grieving father’s tribute to his deceased son Romulus.³

Kircher’s history of the same monument was, in some ways, considerably more exciting, based largely on his readings in the Bible, the *Natural History* of Pliny the Elder (d. A.D. 79),

¹ Kircher, *Oedipus Aegyptiacus*, vol. 1, p. c verso.

² Kircher, *Obeliscus Pamphiliius*, “Epistola Paraenetica ad Reconditae Literaturae peritos lectores,” pp. b 2 3 recto-d verso.

³ Roman Imperial brick stamps, so crucial to our dating of Imperial monuments, were known to Athanasius Kircher, who already saw their potential as a tool for establishing archaeological chronologies. See Buonanni 1709, pp. 170–172 and table IV, p. 188.

and a handful of other ancient writers. According to the *Obeliscus Pamphilius*, the granite monument had been commissioned by Pharaoh Sothis, son of the great Menuphta or Amenophis, who had been the first king to restore Egypt to its primordial splendor after the death of Moses. Sothis, according to Kircher's calculations, must have erected this obelisk and three others in the vicinity of Thebes, the Egyptian capital, circa 1336 B.C.⁴ In the second century of the Christian era, he continues, the Roman emperor Caracalla set the obelisk on the spine of his suburban circus—by which Kircher meant the same circus that is now identified with Maxentius. Whether Caracalla himself had ordered its transportation from Egypt could not be determined, Kircher declared, by any available evidence (although his book supplied a charming image of the obelisks en route to Rome, fig. 3). About what happened next, however, everyone agrees: Sixtus V, the pope who dared to move the Vatican obelisk to its present site in front of St. Peter's basilica, had also made plans for the broken spire in the ruined circus alongside the Appian Way. But it was Innocent X who finally moved the obelisk in 1649 to the site where it stands today, installing it, with an appropriateness of which he was unaware, along the former spine of the Circus of Domitian.

The history of this well-traveled obelisk comprised the first of the five internal books that make up Athanasius Kircher's *Obeliscus Pamphilius*. The next three books provided an introduction to what ancient Egyptian culture had meant in the ancient Greek, Roman, and Hebrew world, to its influence on early Islam and rabbinical tradition, and finally to its significance to contemporary society. Here, especially, Kircher made conspicuous use of his new Arabic font amid the Hebrew, Coptic, and Greek typefaces with which he worked as a matter of course (fig. 4). These essays on Egyptian civilization and language, "On the Invention and Creation of the Hieroglyphics" (book 2), "Egyptian Initiation" (book 3), and "Hieroglyphic Images" (book 4) were liberally salted with promises of greater wonders to come in *Oedipus Aegyptiacus*, but in fact it is the shorter *Obeliscus Pamphilius* that provides Kircher's most lucid account of his Egyptology.

On the basis of this magisterial introduction to Egypt and to himself, Kircher at last proceeded in book 5 to interpret the hieroglyphic texts of the Pamphili Obelisk (fig. 5). Because the delicate carvings in its granite had been partly damaged by time and transport, Kircher's transcription included a number of his own reconstructions and conjectures. The translation, in its day, was a tour de force. It proved the ancient Egyptians' essential piety, squandered though he would show that piety to have been on animal deities and hopes of an eternal afterlife through mummification.

Kircher's account of Egyptian hieroglyphs, the most ambitious before Jean-Louis Champollion's successful decipherment in 1822, impressed his contemporaries because of the author's evident linguistic skill. When he arrived in Rome in 1635, he commanded twelve languages; by the time of his death in 1680 the number had increased to twenty-four, as well as a symbolic language of his own invention. In one respect, however, Kircher's Egyptology was conspicuously, even glaringly, old-fashioned: it treated as genuine a series of ancient philosophical texts that had been passed down from classical antiquity under the name of "Thrice-Great Hermes," Hermes Trismegistus, a Greek title that, in the Hellenistic and Roman world, had served to identify the Egyptian god Thoth. The content of the Hermetic books, in Kircher's

⁴ Kircher's Menuphta is, in fact, strikingly close chronologically to Amenhotep III, whose name was rendered in Greek as Amenophis. Kircher derived Menuphta's

name from Coptic texts; we derive Amenhotep from hieroglyphics.



Fig. 3. Obelisks en route, from *Obeliscus Pamphilii*, p. 90
(photo courtesy of the Department of Special Collections, Getty Research Institute).

CAP. III. 24 LIBER I. DE ORIGINE ETU

LITTERARVM, ET OBELISCORVM.

من العلامة مجده الكعبي والفتحي والمسعود وعلمه الديوبانيس والطلهم

Et hoc puto innervare filii hominum, & comprehendendrum, cognoveruntque & dicereunt exacte leges stellarum, & ordinem signorum Zodiaci, & naturam, & sumam que cum reliquis notis ipsi convenientibus in firmamento colorum, & hoc, experientia longa, & in inferiorum rerum profunditate. Hec enim omnia sunt pertinentia ad rationalem Scientiam, sicut cognitiones sincerae, et certitudine laudabiles, exceptis ijs, quae ad cultum affectuum pertinent. Et paulo post, originem, & inventionem Astronomie verbis sane elegansissima prosequitur:

Fig. 4. Text of Obeliscus Pamphilii, showing Arabic, Greek, and Hebrew fonts, pp. 24–25 (photo courtesy of the Department of Special Collections, Getty Research Institute).

own words, "treat of God, of the creating Mind, of its influence on the physical world, of how to attract God and the spirits through a chaste life, bountiful in its holy operations."⁵ They were written in a dialogue form that reminded readers of Plato—and of the legend that Plato himself, like the Greek sages Pythagoras and Solon before him, had been educated in Egypt. The Hermetic books also proclaimed some of the same tenets and recommended the same disciplines as Jewish mysticism—but then the Hebrew patriarchs Moses and Joseph had both moved in the highest ranks of Egyptian society.

Throughout the fifteenth and sixteenth centuries, these presumed writings of Hermes Trismegistus were regarded as some of the world's most ancient literature. The great fifteenth-century philosopher-physician Marsilio Ficino debated whether Hermes had lived before or after the time of Moses, and most of Ficino's contemporaries assumed that Moses had absorbed the teachings of Hermes Trismegistus as part of his Egyptian upbringing. More than a century after Ficino, Giordano Bruno (1548–1600), the radically innovative promoter of

⁵Kircher, *Obeliscus Pamphilius*, p. 39: "de Deo, de Mente opifice, de eius in mundum corporeum influxu: de Deo geniisque attrahendis per castam et sanctis operationibus

foecundam vitam tractent ratiocinaque secundum lumen naturae instituta contineant.”

INTERPRETATIO. 435.

Obelisci Epigraphe
SCHEMATISMVS I.
 Pars Orientalis,



Hierogram. I.

Idealis Conceptus lectio
 hæc est.

¹ Triformi Numinis Hemphata, Menti primæ motrici omnium, ¹ Menti secundæ opifici, spiritu² pātamorpho; triu- ni, æterno, ¹ principi & finis experti; Deorum secundorum Originis, quod Numē ex Monade sua solitaria, velut centro, & apice in

I. Mundus
 Archetypus.



Hierogram. II.

Hierogram. III.

Hierogram. III.

mundanæ pyramidis amplitudinē dif- fusi, bonitatē suā primō contulit Mū- dō intelligibili Deorū secundorū, orie- tis præsidū; q̄ diuinitatis triformis cha- ractere insigniti triplicis Mūdī præsides cōstituuntur, ⁴ Supremus in ordine, & cho- ro suo Genius, virtute ab Hēphata par- ticipatā, per Aesclepios Geniōs iussis ei⁵ obe- diētissimos inferiori Mūdo⁶ cōti- quo influxu cōfert; vnde rerū omniū K- varietas, nūn nascētiū⁷, nunc intere- diū⁸, vt iterū renascatur, in inferiori Mūdo⁹ origo; & sic tandem humana fe- licitas complectur, exemplar sacerdo- tibus ad imitandū in sacris propositū.

II. Mundus
 Angelicus.

¹ Hemphata ex cōtro Monadis sue¹¹ in dyadem, & hinc per dyadem, hoc est, Angelicas Mentes in triadē, mundi¹¹ hoc est in siderum mūdum sensibilem diffusum: Supremo se communicauit Osiri, id est solaris mundi præsidi, Hic virtute participata fidere Mundi Anima, dux & moderator² cælorū agitator confutus, ope sensibilium Deorum (planetarum)⁶ Mundum v- niuersū triformis Numinis charactere insignitum⁷ viuiscat,⁷ fecundat,⁷ locu- plecat.

III. Mundus
 Sidereus.

⁸ Monas per⁶ dyadem in⁶ triadem, & ex hoc in⁶ tetradi¹⁴ diffusa, hoc est IV. Mundum elementarē, in eo per Agathodēmonem⁴ potentem, triam suam diffusionem, ⁶ potentiamq.⁴ pro- pagat, ⁶ in triplicem Elementaris Mū- di faciem, sive Hyleos Mundos; & hinc in generatione Spharam¹ quintuplici Entium ordine distinctam lapsa, omnia ad⁶ generationem,⁷ secunditatem⁷ vberat, instimulat; expletoque, demum bonitatis suæ appetitu circu- lari, ex⁶ infinita materialium mundorum miscella, in solitariam suam & Monadē reuertitur, Numē & diuino cultu, & ho- nore ab omnibus colendū, & adorādū,

IV. Mundus
 Elementaris.

iii SCHE-

Fig. 5. Interpretation of Pamphilii Obelisk, from *Obeliscus Pamphilii*, p. 435 (photo courtesy of the Department of Special Collections, Getty Research Institute).

atomism and an infinite universe, could still mine the text of Hermes Trismegistus for celestial images and for insight into the self-discipline required to know God. Had Kircher been writing forty years earlier than he did, his faith in Thrice-Great Hermes would have been wholly unremarkable. But in 1614, the status of Hermes and his books had changed drastically. In that year, the Protestant scholar Isaac Casaubon, in the course of his long treatise *On Sacred Matters* (*De Rebus Sacris*), pointed out none too ceremoniously that the literary style of the Hermetic books placed them firmly within the cosmopolitan culture of imperial Rome, and so he slew the myth of Hermes the primeval sage with one mortal blow. Seen through Casaubon's eyes, the Hermetic texts, with their parallels to Platonic and Jewish mysticism, no longer constituted foreshadowings of God's self-revelation to the nations, but simply reflected the spirit of their times, times when writers like Philo of Alexandria and Flavius Josephus could lay claim to Roman, Greek, Jewish, and Egyptian heritage all at once. Philo and Josephus were fine and interesting writers, to be sure, but their accomplishments were thoroughly mortal, and so were those of "Hermes" if their foreknowledge were nothing more than common knowledge.

Athanasius Kircher certainly had the linguistic acumen and the literary sensitivity to grasp Casaubon's arguments at once. Furthermore, as a multilingual German expatriate housed in Rome among the far-flung Jesuits, Kircher was unusually well equipped to understand the ancient Mediterranean's cosmopolitan culture and manifold identities; indeed, he wrote with great intelligence about precisely this sophisticated hybrid aspect of Coptic (late antique and medieval) Egypt.⁶ Yet his *Obeliscus Pamphilius*, after a brief disclaimer in its preface, proceeded to treat the Hermetic texts as if they were genuine. It was an extraordinarily conservative, not to say credulous, position for him to take at this time and with his scholarly preparation. As for Hermes himself, Kircher portrayed him not as an outright deity, but rather as a supremely wise man who had actually existed at a definite time in history. (The idea that the gods were originally famous mortals was as old as the Greek scholar Euhemerus. For Kircher, of course, Euhemeristic interpretation of Hermes as a wise man also safely preserved Catholic faith in a single God).

Some three hundred years after the Flood, there arose a man from the stock of Canaan, endowed with every gift of Nature, whom Nature had appointed to penetrate the secrets of both the arts and the sciences and the invention of new things; indeed GOD seemed to have granted him to the inexperienced world in order to educate the human race with his help. . . . For he was a man of the sharpest wit, of marvelous cleverness, and a tireless examiner of Nature, who, well-informed about the state, customs, institutions, and disciplines of the primeval world, conceived this single goal, that he should foster the disciplines handed down from the primeval Patriarchs, and when he had learned them thoroughly consign them in turn to posterity (for he was a supremely inquisitive investigator of all things that could be comprehended by human wit). In order to reinforce this repertory of acquired learning by various kinds of practice and experiment, and stimulated by curiosity about the things to be investigated, he wandered the various places of the world.⁷

⁶ As, for example, in Kircher, *Prodromus Coptus sive Aegyptiacus*, pp. 1–122.

⁷ Kircher, *Obeliscus Pamphilius*, p. 93:

Anno circiter trecentesimo ferè post diluvium, ex Stirpe Canaan prodiit quidam, omnibus Naturae dotibus ornatissimus; quemque Natura ait artium, et scientiarum arcana rimanda, novarum inventionem rerum finxisse, DEVS verò ad humanum genus eius ope

erudiendum mundo imperito dedisse videbatur. . . . Erat enim vir acerrimi ingenii, subtilitatis admirandae, et naturae scrutator indefessus. Qui . . . de primaevi mundi statu, moribus, institutis, disciplinis instructus, hoc unicum sategit, ut traditas à primaevis mundi Patriarchis disciplinas excoleret, excultas ad posteros consignaret; cumque curiosissimus rerum omnium, quae humano ingenio comprehendi poterant scrutator esset; ut acquisitam disciplinam suppellectilem

Were it not for the precision of his placement in time, this Hermes, with his inquisitive character, his outstanding talents, and his mission to hand on the wisdom of the ages, might as well be Athanasius Kircher himself and, more specifically, the Athanasius Kircher who had written the *Obeliscus Pamphiliius* and was nearly finished writing *Oedipus Aegyptiacus*, unlocking ancient secrets for modern readers. Nor was Kircher's Hermes Trismegistus simply the wise author of the Hermetic books; instead, embellishing Plato's report that Thoth/Hermes had been the inventor of writing, *Obeliscus Pamphiliius* credited Egyptian Hermes with the very creation of hieroglyphic script. In Plato's *Phaedrus* (274d–275b), Socrates worried that writing was a medium that exposed knowledge to great risk by making it available to readers indiscriminately.⁸ For Kircher, however, writing could also serve as a means of concealment.

When [Hermes] perceived that the knowledge handed down by the Fathers had been polluted by various superstitions and was degenerating into outright idolatry, he thought seriously to himself how it might be possible to combat this great evil of idolatry. And because it seemed to him by no means a prudent idea to have so many and such lofty mysteries of divinity and Nature bandied about before that public which he knew to be greatly addicted to superstition and incapable of carrying out those sacraments, and which he recognized as likely beyond doubt to traduce them into abuses of various kinds. Thus he turned his mind toward the creation of secret Symbols by which he presented the mysteries of divinity and the laws of Nature, so that they would be manifest only to the wise and those conspicuous for intelligence, fortified by supreme wit against interpretation by the uninitiated (whereas for the masses and Idiots he would leave nothing but wonderment).⁹

Again the parallels between Kircher's life of Thrice-Great Hermes and his own life are suggestive. He was well known for the dazzling effects he procured with sound, light, mirrors, and magic lanterns: talking statues, romping devils, stentorian blasts of gigantic tubas. He used his megaphones, hot-air balloons, magnetic oracles, and flying cats in cherub suits, he said, to rid people of superstition and to alert them to the miraculous powers of nature's own devices. In the passage just cited, however, he writes more pointedly about providing enlightenment to the wise and wonderment for idiots. For this master of communication in every medium, such open declaration of his intent to deliver different kinds and amounts of information to different kinds of people testifies to his expert sensitivity in controlling his audience.

vario usu, et experientia confirmaret, curiositate rerum investigandarum instimulatus, varia mundi loca peragravit.

⁸ Plato, *Phaedrus*, 274d–e (trans. Benjamin Jowett): I cannot help feeling, Phaedrus, that writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence. And the same may be said of speeches. You would imagine that they had intelligence, but if you want to know anything and put a question to one of them, the speaker always gives one unvarying answer. And when they have been [274e] once written down they are tumbled about anywhere among those who may or may not understand them, and know not to whom they should reply, to whom not: and, if they are maltreated or abused, they have no parent to protect them; and they cannot protect or defend themselves.

⁹ Kircher, *Obeliscus Pamphiliius*, p. 93:

Cum . . . scientiam a Patribus traditam variâ superstitione coinquinatam, et ad manifestam idolatriam degenerantem comperiret, seriò secum cogitavit, quomo do tanto idolatriacae malo occurrere posset. Et quoniam nequaquam consultum esse videbat, tot tamque alta divinitatis, et Naturae mysteria illi propalare populo, quem sciebat et superstitionibus addictissimum, et dictorum sacramentorum incapacem, quemque in varios abusus ea haud dubiè traducturum cognoscet. Hinc animum intendit, ad reconditionum Symbolorum fabricam, quâ mysteria divinitatis, et Naturae ira exhibebat, ut solis sapientibus et intellectu conspicuis manifesta, plebi verò et Idiotis praeter admirationem nihil aliud captu pervium relinqueret, ingenio summo à profanorum lectione munita.

Kircher's Hermes also founded an order of priests, whose intricate webs of communication and uniform sacraments are suggestive of the priestly order that Kircher himself knew best, the Society of Jesus.

Nor did [Hermes] think it right to reserve such a great weight of secret lore to himself alone, and so that the clever Script be passed on to posterity, he established an order of Priests, the most select of persons, outstanding for wit and experience of things, whose only hope was for the Kingdom, to whom he handed down the code of secret arts and sciences that he had prescribed. He also compelled them by oath never to communicate this code to any but one of their Order; in addition he prescribed a standard for Rites and Sacrifices and all other things that pertain to the worship of GOD, so that the doctrine handed down by this means would be carried out identically by uniform establishment in all the Kingdom.¹⁰

If not quite the *Spiritual Exercises* of Ignatius Loyola, Hermes' mysteries apparently served the same purpose: their practitioners were trained to bear within themselves a divine truth that could then be transmitted to others. Ignatius conceived his *Exercises* as memory training whereby every Jesuit, no matter where he might be sent on mission, could function as a self-sufficient bearer of his Church and its doctrines. Kircher's Hermes chose another way to consign profound truths to unyielding memory: he inscribed them in hieroglyphics on stone obelisks rather than exposing them to the risky and perishable medium of books.

And when [Hermes] noted that books, made of fragile and corruptible material, could scarcely survive the ravengings of time . . . in order that the doctrine he had handed down would never be erased from memory, he adopted Hard Stones, outstandingly fortified against every injury of time, to portray the mysteries, so that these mysteries, carved into the stone in the wondrous script he had devised, would last into eternity.¹¹

Eventually, as with any good story of the past, time was compelled by dictate of nature and narrative logic to take its toll on Hermes Trismegistus and his sublime revelation. In describing Egypt's decline, Kircher took his cue from the Hermetic writings themselves: one of the most famous passages of this entire body of literature, one quoted by Ficino, by Giordano Bruno, and by Kircher himself, raised a lament for the lost piety of Egypt. As Thrice-Great Hermes said in that passage to the heroic healer Asclepius:

Do you not know . . . that Egypt is the image of heaven, and to state it more clearly, the colony of all things that are governed and exercised in heaven? To tell the truth, our land is the temple of the world. But, alas, the time will come when Egypt will seem to have been the pious worshiper of divinity all in vain, for divinity, returning to heaven, will leave Egypt

¹⁰ Kircher, *Obeliscus Pamphilii*, p. 93:

Ne tamen tantae molis arcanum soli sibi reservasse
videatur, ingeniosaque Characterum architectura in
posterioris traduceretur: Sacerdotum, hominum selectissimorum, ingenio et peritiae rerum excellentium,
quibus solis ad Regnum Spes esset, instituit ordinem,
quibus artium, scientiarumque reconditarum normam
à se praescriptam tradidit; quos et juramento adegit,
ne praeter sui Ordinis hominis eandem ulli alteri
communicarent; Sacrorum quoque, Sacrificiorumque,
et quaecumque ad cultum DEI pertinerent, normam

praescripsit, ut hoc pacto, tradita doctrina uniformi
instituto in toto Regno perageretur.

¹¹ Kircher, *Obeliscus Pamphilii*, p. 93: "Et quoniam
videbat, libros ex fragili, et corruptibili materia . . .
temporum edacitatem effugere minimè posse . . . ne
doctrina à se tradita memoriam elaboretur: Saxa durissima,
et contra omnes temporum iniurias egregie munita in
mysteriorum figuram adaptavit, ut in iis mirâ quadam
ratione à se inventa insculptaque aeternitati sisteret."

deserted, and this throne of divinity will become widowed of all religion, piety, law, and creed. O Egypt, Egypt, of your religions only the tales will remain, unbelievable to future generations, and they will have no one to tell of your pious deeds except the letters carved in stone, which will not speak to gods and men (for the latter will be dead, and deity transmigrated to heaven), but to Scythians and Indians, or other savages. Darkness shall prevail over light, death shall be judged more useful than life, the religious person shall be judged insane, the impious prudent, the madman strong, the worst man good.¹²

As Kircher told the story, Egypt's degeneration came about because of the corruption of priests. If his readers were to have seen analogies between the Hermetic priesthood and the Society of Jesus, this was a bold line to take in papal Rome and in the heart of the Jesuit Order, particularly in a period when anti-Jesuit pamphlets were such a popular form of clandestine literature. But Kircher's more immediate intent must have been not to admonish his own brethren, but rather to draw a line between ancient Egyptian religion and Christianity, to point up the need already acknowledged in antiquity for a new dispensation in the human search for wisdom.

However, as always happens, when there are those who lust beyond reason for empty glory, the symbols passed down by Hermes of the divine mysteries and the secrets of Nature degenerated into open superstition. From which derived that prodigious mythology about the Gods, the worship of brute beasts, the absurd sacrificial ceremonies—these things that had originally been established by Hermes according to the divine mysteries, now emerged from that lore as from some Trojan horse, and gradually infected the whole world. Now the greed of priests appeared, who robbed everything from the people, whom they persuaded of everything but what they had been ordained to teach, and hence the absurd Ceremonial worship, the wailings and lamentations, hence the tales of Osiris, Isis, Horus, Typhon, Serapis, and demons secretly insinuating themselves into priestly rites, hence Diabolical Magic, the impiety of Oracles, the creation of Statues and Idols, and infinite other things . . . and so it came to pass, that Egypt became the public Theater of superstition and every damnable art.¹³

In this degenerate form, Egyptian wisdom could step aside without loss to admit Christian revelation to the course of history. Yet however closely Kircher's tale of Hermes Trismegistus hewed to the outlines of a factual account with its postdiluvian dates and careful chronological and geographical references, *Obeliscus Pamphilius* continually reminded its readers that historical narrative itself was only a limited medium. The deepest truths, as Kircher

¹² Hermes Trismegistus, *Asclepius*, quoted (with some modifications) from F. A. Yates, *Giordano Bruno and the Hermetic Tradition* (London 1964) 38–39. See also the preface to *Obeliscus Pamphilius*, p. b 2 2r: "O Aegypte, Aegypte, religionum tuarum solae supererunt fabulae, et aeque incredibiles posteris suis, solaque supererunt verba lapidibus incisa, tua pie facta narrantibus, et inhabitabunt Aegyptium Phaenix aut Indus, aut aliquis talis, divinitas enim repetet coelum, deserti homines toti morientur, atque ita Aegyptus Deo, et hominibus viduata deseretur."

¹³ Kircher, *Obeliscus Pamphilius*, p. 99:

Verūm, ut fieri solet, dūm inanis gloriae cupidiores, quām par esset, forent: Symbola ab Hermete de divinis mysteriis, et Naturae arcanis tradita, in manifestam

superstitionem deduxerunt. Undē mox prodigiosa illa Deorum mythologia, brutorum cultus, sacrificiorum ridiculae caerimoniae, quae ab Hermete priū ad divinitatis mysteria instituta erant, ex eis tanquam ex equo quodam Troiano enatae, totum paulatim mundum infecerunt: Accessit turpe lucrum Sacerdotum, quod à populo obtinebant, cui omne aliud, quam quod praefiguratum erat, persuadebant. Hinc Caerimoniarum cultus prorsus ridiculus, hinc planctus et lamenta, hinc fabulae de Osiri, Iside, Horo/[100] Typhone, Serapide, insinuantibus se eorum operationibus, occultè doemonibus, unde et Magia diabolica, Oraculorum impietas, simulacrorum, Idolorum fabrica, aliaque quam plurima . . . prodierunt; factumque est, ut Aegyptus publicum fieret superstitionis, damnatarumque artium Theatrum.

asserted at every opportunity in this substantial treatise, were better told obliquely, through symbol, allegory, or parable (among these forms, for the sake of his argument, he did not draw a clear distinction). The Egyptians, he wrote, had originated symbolism as a means of protecting the truth from profane folk when Hermes Trismegistus invented the hieroglyphs, but Egypt also subsequently taught the same arts of concealment to Pythagoras and through Pythagoras to Plato, as well as to Moses, and through Moses to the rabbis. At last, as Kircher concludes, Jesus, steeped in all the wisdom of the ages, employed parable to bring divine truth to fruition in the Gospels.

The ancients, moreover, used symbols in two ways . . . one expressed in words, one not. The Egyptians used both, especially in expressing the mysteries of Religion and the science of Theology, regarding it as unbecoming to the majesty of such mysteries were they to be understood by any common person. Therefore their priests indicated the divine mysteries under the cryptic and shadowy guise of allegorical figures, and no one but priests, sages, and philosophers were trained in this discipline. Among the Greeks, Pythagoras, a true student of Egyptian wisdom, particularly tried to emulate them . . . and the great Moses. . . . Hence the Rabbis showed that all of Holy Scripture was nothing other than an extended Symbol of the most sublime matters and mysteries, properly known only by Teachers who had been instructed long and thoroughly in the Law. Indeed, what we often read in the Gospel Writers confirms that Our Savior Christ used this way of speaking in parables [to convey] this same eternal Wisdom. For the hidden substance of GOD does not know how to enter into a profane and polluted ear through naked speech. Hence Julian the Apostate, impious though he may be, speaks correctly when he says “Nature loves to stay remote and hidden.”

And thus it happens that the Pythagoreans used riddles and symbols in their monuments for the doctrine that their master had learned in Egypt, and after them the Platonists, thinking that naked and open exposition would be inimical to God and Nature . . . and furthermore they convinced themselves, and firmly believed, that God would withdraw Himself from the perceptions of common and profane humanity, hiding understanding and knowledge of things beneath likenesses and parables; on the other hand that it would be pleasing to Him if those desirous of true Wisdom would seek out His arcane mysteries by the path of secrecy, and hence proceed to reveal the holy sacraments of His teachings as if by some subterranean path, and thus only prudent people, for whom wisdom acted as interpreter, would be able to penetrate to knowledge of the hidden truth.¹⁴

¹⁴Kircher, *Obeliscus Pamphilii*, pp. 115–116:

Antiqui porrò dupliciter utebantur symbolis. . . . Alia verbis quibusdam explicabantur, alia non; quibus utrisque Aegypti, praecipiè ad Religionis, ac Theologiae disciplinae mysteria explicanda utebantur: indignum esse iudicantes, ac tantorum mysteriorum inconveniens maiestati; si ea à qualibet plebeio intelligerentur. Undè sacerdotes eorum divina mysteria sub cooperta aliqua nota, et umbrosa allegoricae figurae apparentia indicabant, qua disciplina etiam non nisi soli sacerdotes, sapientes, ac philosophi erudiebantur. Quos inter Graecos praecipiè aemulari conatus est Pythagoras verus Aegyptiacae sapientiae alumnus . . . sic . . . fecit cum primis magnus ille Moses . . . [116] Ostendunt itaque . . . Rabbini, totam sacram Scripturam nil aliud esse, quam continuatum quoddam Symbolum rerum et mysteriorum sublimissimorum, quae solis Doctoribus, et diù multumque in lege

exercitatis ut sciant, convenit. Imò ipsam aeternam Sapientiam Christum Servatorem nostrum hoc parabolico dicendi genere usum testantur ea, quae apud Evangelistas haud infrequenter leguntur. Nescit enim abscondita DEI substantia nudo sermone in profanam et coinquinatam intrare aurem. Undè non incongruè dicit, quantumvis impius Julianus Apostata, Amat natura stare celata et abscondita; p. 116: Atque indè est, quo Pythagorici doctrinam, quam illorum Magister didicerat in Aegypto, ac post eos Platonici in monumentis suis usi sunt aenigmatis et symbolis, existimantes, quod nuda et aperta expositio DEO et naturae esset inimica . . . ac proindè persuadebant sibi, et firmiter credebant, quod DEUS sese ab hominum vulgarium, et profanorum sensibus subducere, intelligentiam, et cognitionem sub variarum rerum abscondendo similitudinibus et parabolis; gratum econtra, acceptumque ei esset, ab hominibus verae

What was that hidden truth? Kircher made it abundantly clear that Hermes used hieroglyphs to tell the secrets both of God and of nature, not only “the mysteries of Religion and the science of Theology,” as in the passage cited above, but specifically “the arts and sciences,” “the mystery of divinity and the laws of Nature,” “the divine mysteries and the secrets of Nature.” The process of spiritual enlightenment outlined in the Hermetic books did not, then, represent the entire sum of Hermetic learning as Kircher saw it. Rather, as *Obeliscus Pamphiliius* suggested and *Oedipus Aegyptiacus* would attempt to show at length, there had also been an Egyptian science, based, like all good science, on experimentation.

In effect, therefore, *Obeliscus Pamphiliius* promised to reveal two kinds of truth known to the Egyptians, truth about divinity and truth about Nature. The placement of the Pamphili Obelisk in Piazza Navona assumes the same double task. Gian Lorenzo Bernini’s design for the Fountain of the Four Rivers (fig. 6) plants the obelisk of Domitian atop a hollow mountain on whose craggy slopes four river gods, one from each of the four corners of the earth, perch with their identifying attributes: the Danube dripping water-weeds, a Rio della Plata reclining amid silver coins, an exotic Ganges cowering in terror (though not, as Roman legend has it, at Borromini’s façade for the church of Sant’ Agnese—it was not yet built), and the hoary Nile veiling its head. This open structure lends the heavy travertine fountain a lovely sense of lightness, but it also expresses, with uncommon clarity, a contemporary theory that rivers originated from huge reservoirs that could be found beneath all the mountains of the earth. The chief proponent of that theory was none other than Athanasius Kircher, who expounded it at length in a great work on geology which, like his *Oedipus Aegyptiacus*, would require the labor of decades before it went to press. *Mundus Subterraneus* (*The Subterranean World*) finally saw print in 1665, under the approving eye of Pope Alexander VII (the former Fabio Chigi), but Kircher had been advertising the book openly as early as 1656 and conceived it in the late 1630s after a trip to southern Italy, Sicily, and Malta in 1637–1638. *Mundus Subterraneus*, despite its title, considered not only phenomena under the earth, but also the very structure of the cosmos. With its two stout folio volumes and lavish engravings it stands, like the *Oedipus Aegyptiacus*, as one of the landmarks in its prolific author’s career; indeed, these two colossal books complement each other just as Bernini’s travertine mountain and its granite obelisk work together to create the Fountain of the Four Rivers, to reveal at one and the same time “the mysteries of divinity and Nature’s laws.”

At the root of Kircher’s thinking about the world was a conviction that every part of the universe was made of the same basic elements: earth, air, fire, and water. These combined and recombined incessantly to make the sun, moon, stars, and earth, as well as their component parts and the creatures that they sustained. He accepted, with hearty enthusiasm, the revelations of the telescope, or, as he called it, the Astronomical Tube. He also, therefore, acknowledged the existence of sunspots and lunar craters (one of which now bears his name). He was fascinated by volcanoes, whose eruptions led him to believe that the earth harbored deep reservoirs of fire, water, and air beneath its surface. To these reservoirs he applied colorful Greek terms: “pyrophylacium” (“fire-reservoir”), “hydrophylacium,” and “aerophylacium.” Volcanic magma, as he showed, was heated to liquidity by pyrophylacia; from hydrophylacia, underground springs gushed forth. Hot springs occurred where a combination of the two kinds of reservoirs occurred beneath the surface of the earth. On the same

Sapientiae studiosis arcana sua mysteria per viam secreti investigare; ac proinde veluti sub via quadam subterranea sancta doctrinae suea Sacra menta

cooperiente procederent: atque ideò solis hominibus prudentibus, quibus interpretis loco esset sapientia, ad veri secreti penetrare possent cognitionem.



Fig. 6. Piazza Navona, Fountain of the Four Rivers (1650) (photo Fototeca Unione, American Academy in Rome).

principles, he maintained that rivers sprang from the immense hydrophylacia to be found beneath all the world's mountain ranges (fig. 7). The Alpine hydrophylacium bred the Danube, the Andes the Rio della Plata (fig. 8), the "Principal Hydrophylacium of Asia" (beneath what we now call the Himalayas) bred the Ganges, and the Nile emerged from beneath the Ruwenzori range, which Kircher identified with the fabled "Mountains of the Moon" of classical geography. *Mundus Subterraneus* explained it all.¹⁵

And first of all, I suppose that Nature's Hydrophylacia, like siphons or water pipes, were inserted [in the earth] not by random occasion, but by Nature's grand plan, with no less diligence than veins and arteries [were inserted] in the human body or Microcosmos, as vessels for liquid, and just as Eternal Wisdom established everything in terms of number, weight, and measure, so too she set up the internal economy of the Geocosmos and its construction to include those means of assistance without which she foresaw that no effect could be achieved.

¹⁵ In essence, these underground reservoirs performed the same service as watersheds, but by subterranean con-

duits rather than surface rainfall; see *Mundus Subterraneus*, 1:232–233.



*Fig. 7. Hydrophylacia and vortices, from Athanasius Kircher, *Mundus Subterraneus*, vol. 1, p. 233
(photo courtesy of the Department of Special Collections, Getty Research Institute).*

Another secret of Nature lies hidden here, that I have decided to reveal in this place. Let the Reader recall that in Book Three we spoke about the hydrophylacia under mountains, and he will find that just as in the Alps, so in all the other great mountain ranges, by the singular providence of GOD GREATEST AND BEST they were established from the beginning of Creation, and from them rivers originate in the different parts of the world, to water the surrounding Regions and also for the convenience of humanity and the ease of navigation. Now so many rivers, of such size and with such a great perennial flow, cannot arise unless said Hydrophylacia are freshly replenished by the influx of water . . . and this cannot happen unless said Hydrophylacia are replenished daily by the Sea or Ocean through subterranean channels.¹⁶

¹⁶ Kircher, *Mundus Subterraneus*, 1:254:

Aliud itaque arcanum Naturae hīc latet, quod hoc loco manifestandum arbitratus sum. In memoriam revocet Lector, quae Libro Tertio de Hydrophylaciis montium diximus; et inveniet, sicuti in Alpibus, ita in omnibus aliis vastissimarum montium catenis singulari DEI OPT.

MAX. providentia ab exordio rerum dicta hydrophylacia constituta sint; ex quibus in diversas Mundi partes flumina, tum ad irrigandas Regiones circumiacentes, tum ad utilitatem hominum navigationisque commodum deriventur; derivari autem tot ac tam ingentia flumina perenni fluxu non possent, [255] nisi



*Fig. 8. The Andean Hydrophylacium, from Mundus Subterraneus (1678), vol. 1, p. 155
(photo courtesy of the Department of Special Collections, Getty Research Institute).*

The basic instability of the earth in turn led Kircher to formulate his own version of plate tectonics, but for him the continents rose, fell, and drifted in a “geocosmos” that was only six thousand years old, and an important piece of evidence was the lost island of Atlantis.¹⁷

The truth of this phenomenon is made plain by the great streams, the Rhine, Rhone, Po, Euphrates, Indus, Ganges, and the other famous rivers of America, all of which, in time, burdened with huge quantities of sand, founded new colonies of the Terrestrial Regions by accumulation of their deposits in low-lying regions where waters once were harbored.

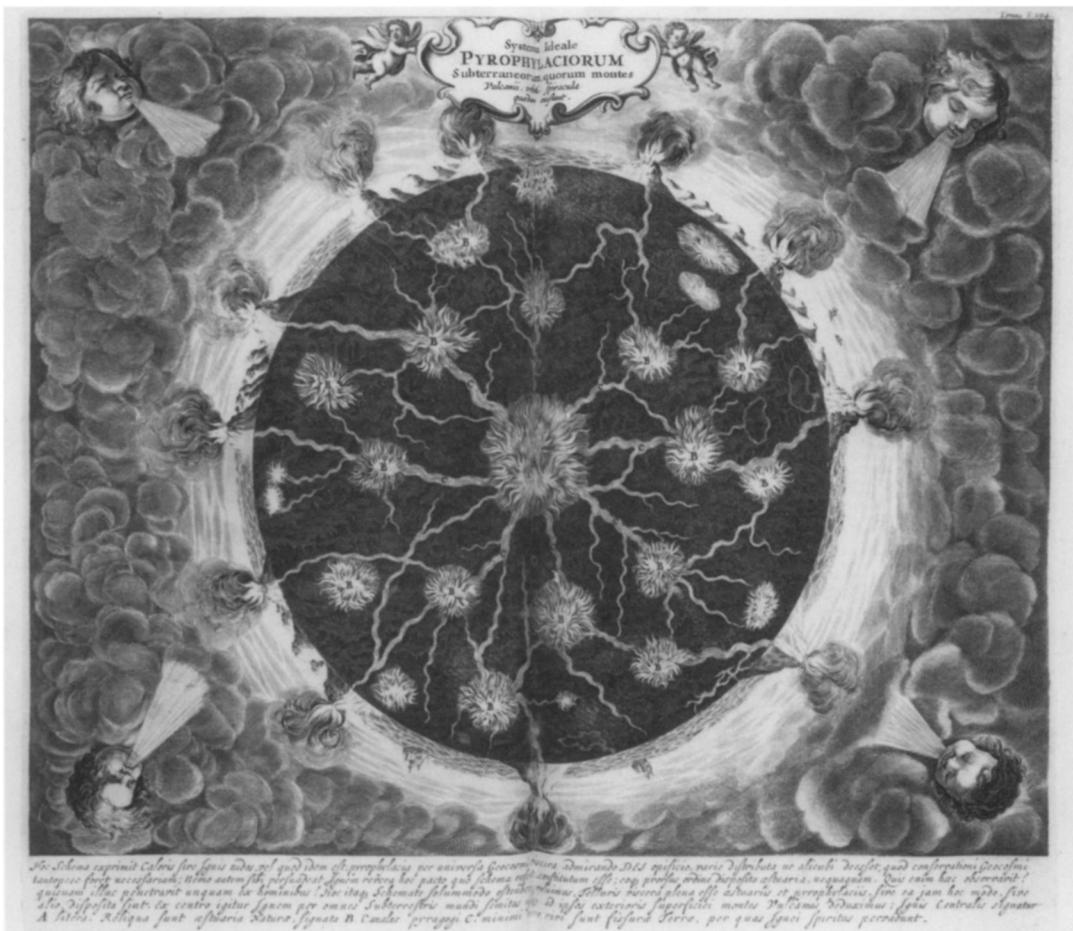
The moon’s craters and the sun’s spots and flares convinced him that those heavenly bodies behaved much as the earth did.

The Sun . . . consists of solid and liquid, as is more than sufficiently clear by the help of the Optical Tube in these modern times, through which it is seen to seethe and storm not unlike some immense Ocean in a perpetual boiling, just like huge waves, and also that huge Spots

dicta Hydrophylacia novo semper et novo aquarum
com[m]leatu replerentur. . . Aliud itaque non occurrit,
nisi quod dicta Hydrophylacia ex Mari aut Oceano,

quotidie per subterraneos meatus repleantur.

¹⁷ Kircher, *Mundus Subterraneus*, 1:82.



*Fig. 9. Pyrophylacia of the Earth, from Mundus Subterraneus, vol. 1, p. 194
(photo courtesy of the Department of Special Collections, Getty Research Institute).*

are stirred up around its Center, and these, with their inconstant nature and sudden alteration, prove that they are nothing else but gigantic evaporation of this Fiery Ocean.

You will infer, not improbably, that the Moon is a Globe substantially like our Earth, a body, that is, of earth and water, that is, one composed of heavenly Water and Earth, endowed with the innumerable powers of hidden seeds, which, when mixed with the rays of the sun, produce that multitude of phenomena on the earth that we definitely admire daily, and yet in our minds scarcely grasp their mystical principles.¹⁸

¹⁸ Kircher, *Mundus Subterraneus*, 1:58:

Sol . . . constat ex solido et liquido; quemadmodum modernis hisce temporibus Tubi Optici subsidio sat superque patuit; quo adhibito non secus ac Oceanus immensus, ingentium instar undarum, perpetua ebullitione fervet et aestuat; I.63: inferes haud improbabiliter, Lunam Telluri nostrae prorsus similem Globum esse, corpus, videlicet, Terraqueum, id est, ex Humido et Terra Coelesti constitutum; innumeris latentium seminum praeditum facultatibus, quae Solis

radiis mixtae, in Terra eam rerum multitudinem producant, quam quotidie quidem miramur, tametsi misticam rationem vix animo comprehendimus.

See also 1:58:

In hoc eodem corpore subinde maculae quoque ingentes, veluti umbrae et contra-oppositae luces summa admiratione spectantur; quarum aliquae decrescendo mole, attenuantur simul in umbras subtilissimam; ita, ut tandem ipsam a reliqua Solis superficie, nisi aptatione instrumenti vix possit

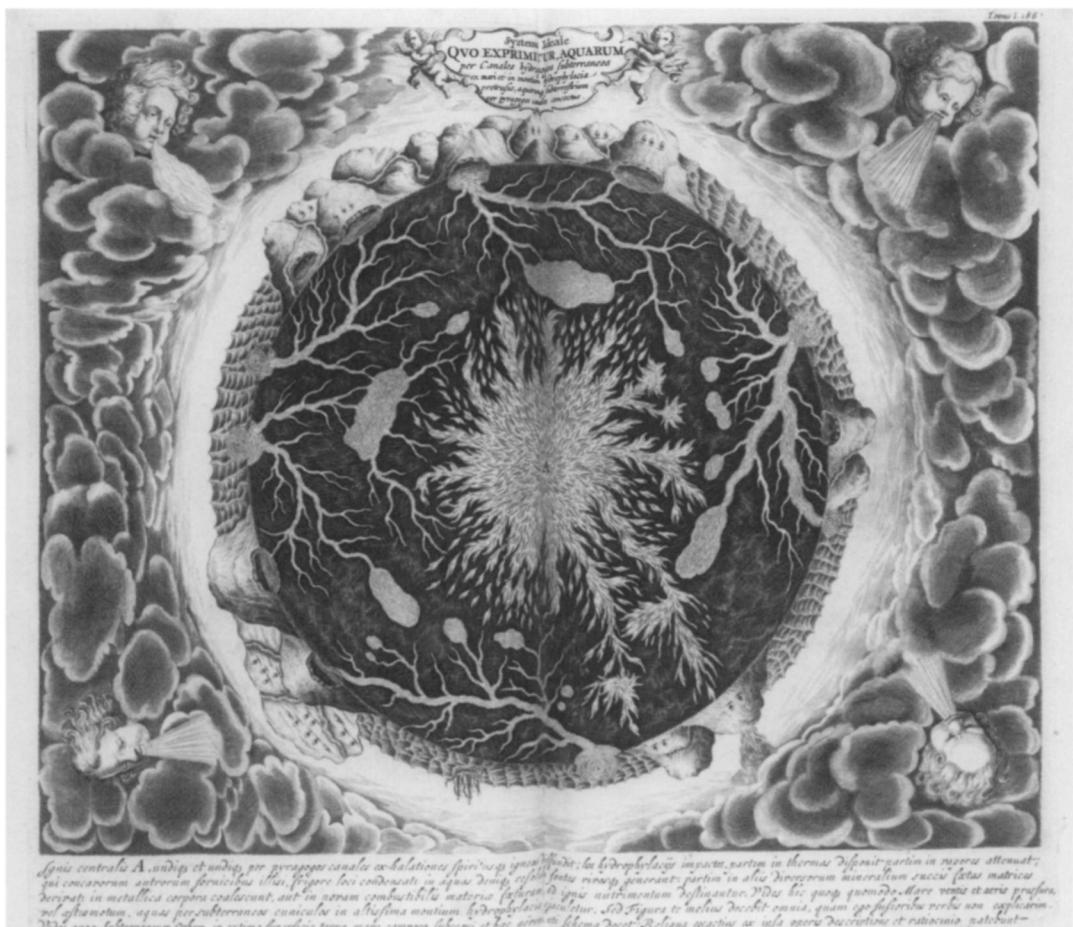


Fig. 10. Hydrophylacia of the Earth, from Mundus Subterraneus, vol. 1, p. 186 (photo courtesy of the Department of Special Collections, Getty Research Institute).

In strict terms, however, Kircher, as a Jesuit, was forbidden to propound this world system, at least in its entirety. The Society of Jesus had adopted a curriculum (*ratio studiorum*) in 1599 that admitted Aristotle as the exclusive source of cosmological truth, and any departure from the Greek philosopher's system of perfectly flawless heavenly bodies revolving in crystalline spheres about a heavy elemental earth could be punished with the utmost severity, as the layman Galileo Galilei had already learned in 1633. So long as Kircher stuck to the earthly realm he called the geocosmos, he was relatively safe from inquisition; Aristotle himself had found it a most imperfect and unstable place. And although Kircher's network of hydro- and pyrophylacia left no room for traditional Hell (figs. 9, 10), Aristotle's earth lacked one, too.

However, some of Nature's laws, at least as Athanasius Kircher seems to have defined

discernere, et per unum aut plures dies, quandoque cito evanescit penitus, et aliquando comitante aut subsequente facula fiunt haec omnia. ("In this same Body huge spots, like shadows, or counter-lights, can be observed with great wonderment: some of them, decreasing in size, reduce into the most subtle of shadows, so

that, like the rest of the surface of the Sun, you can scarcely discern them without the help of an Instrument, and like a shadowy trace [*umbratile vestigium*] they will last for one or more days, whereupon they will suddenly vanish entirely, and every so often a burst of flame will occur at the same time or subsequently.")

them, were better consigned to secrecy. Chief among those secrets may have been his views on the structure of the universe. His responsibilities as professor of mathematics in Rome included the teaching of astronomy; among his predecessors at the Collegio Romano were some of Galileo's most conspicuous adversaries, Orazio Grassi and Christoph Scheiner, but also one of Galileo's chief supporters, the great Christoph Clavius. In a conversation recorded in France in 1633, as Galileo's trial wore on in Rome, Kircher admitted that a number of Jesuit astronomers were convinced, with Copernicus, that the earth revolved around the sun; he counted Clavius and Scheiner among them. The context of his remarks suggests that Kircher must have been another quiet Copernican.¹⁹

The good father Athanasius . . . could not restrain himself from telling us, in the presence of Father Ferrand, that Father Malaperti [Charles Malapert, another Jesuit astronomer] and Father Clavius themselves in no way disapproved the opinion of Copernicus—indeed they would have espoused it openly had they not been pressed and obliged to write according to the premises of Aristotle—and that Father Scheiner himself did not comply except under compulsion and by obedience.

Although *Mundus Subterraneus* would devote its initial chapter to proof that the universe centered on the earth, by a process that Kircher called *centrosophia*—literally, “center-wisdom”—his efforts clearly consisted more in sophistry than in serious argument. Later in the same book he would make what appears to be a very different claim about the cosmos and its structure.

So that a greater variety of phenomena and effects would shine forth in this World, it came about by the plans of the ineffable Divine Wisdom that many individual Bodies in this Universe would be created, imbued with various and different qualities, so that they, impregnated by the fecund rays of the Sun, with a mixture of Seeds borne to Earth as it were by a reflected ray of Solar light, would create new combinations of created things there. And so that this could occur more easily [Divine Wisdom] willed it that the Moon circle around the Earth, and the Planets about the Sun as their Center, so that the rays received from the Sun would be poured more easily upon the Earth.²⁰

Kircher says nothing here about the relative positions of Sun and Earth: in effect he refuses to admit the geocentric cosmos as an expression of Divine Wisdom. Later instructors of

¹⁹ Nicolas-Claude Fabri de Peiresc to Pierre Gassendi, 27 August 1633:

27 Aoust * 1633. Et toutefois le bon P Athanase que nous avons veu passer icy bien à la haste, ne se peult tenir de nous avoüer, en presence du P Ferrand, que le P Malapertius [Charles Malapert, French Jesuit who worked in Poland and Douai] et le P Clavius mesmes n'improuvoient nullement l'avis de Copernicus, ains ne s'en esloignoient guieres, encors qu'on les eusse pressez et obligez d'escrire pour les communes suppositions d'Aristote, que le P Scheiner mesmes ne suyvoit que par force et par obedience aussy bien que luy qui ne faict pas de difficulté d'admettre au corps de la lune, non seulement des montaignes, des vallées et des mers ou estans, mais des arbres et des plantes, et mesmes des animaux, pourveu qu'on en veuille excepter et exclure les plus parfects et d'admettre aussy que la terre face une

reverberation sur le globe de la lune, de la lumiere du soleil, qui responde à celle que faict la lune sur la nostre. (Cited from Peiresc 1893).

²⁰ Kircher, *Mundus Subterraneus*, 1:62:

Ut maior in hoc Mundo rerum affectuumque varietas elucesceret, ineffabilis Divinae Sapientiae consiliis factum est, ut complura Corpora in hoc Universo singula variis diversisque qualitatibus imbuta constituerentur; ut haec foecundis solis radiis impregnata, Seminumque mistura per lucis Solaris veluti radium in Terram delata, ibidem novas generabilium rerum combinationes molirentur. Ut verò hoc commodius fieret, Lunam circa terram, et Planetas circa Solem tanquam centrum converti voluit, ut acceptos à Sole radios in Tellurem commodius funderent.

astronomy at the Roman College would use an armillary sphere that had two interchangeable interiors. One modeled the Ptolemaic-Aristotelian cosmic system, with the sun revolving around the earth, and the other followed Copernicus; one was required by doctrinal necessity, one by a search for Nature's truths in which Kircher was not the only devout Catholic to face directly what the evidence told him.

Kircher was also interested in Nature at the other extreme, of minuteness. He spent as much time staring through his microscope, or *Smicroscopium*, as he did staring at the heavens through his Astronomical Tube, and what he saw convinced him of Nature's boundless vitality. As he described them, the elements of the world combined to produce not only the plants, animals, and minerals that could be observed by the naked eye, but also a microscopic world, most of whose creatures he simply called "worms." By observing "worms" and their development from every kind of putrid matter, food, dung, or water, he devised a theory of universal fertility that he called *panspermia*, the "universal seed."²¹ He based the principles of panspermia in part on the chemistry of Paracelsus, who in the sixteenth century had reduced all minerals to salt, sulphur, and mercury. *Mundus Subterraneus* used these basic compounds to illustrate how even the earth's apparently lifeless matter not only eroded and crumbled away, but also grew and replenished itself.

In His divine and ineffable wisdom the All-Wise Creator took care that generation would follow corruption, and new corruption would succeed generation, according to the nature granted each individual creature by the Maker of that same universe, and thus the universe abides in its perfection through the wondrous vicissitude of things following upon one another in turn. This was nothing other than a seminal or spermatic power, by whose qualities and efficacy things appear by natural propagation from what has perished.²²

On the same principles, Kircher wrote at length about spontaneous generation, arguing that creatures like insects and orchids arose from an imperfect union between fertilizing seed and nurturing womb, that is, from mammalian sperm deposited in dung and soil rather than in the proper organs of animals of the same species.

Just as every part of an animal is present in its seed by its very nature, as we said earlier, and they evolve bit by bit into the perfect form of an animal in the heat of the womb, with formative power acting to shape the individual parts, is it any wonder, I say, if the seed of men, or animals, when received into the harmonious, proportioned matrix of moist earth should end up forming, together with seed's own property to stimulate eros, if not a perfect animal, which would be beyond its powers, at least something analogous, whether to an animal or a man, whose parts are not greatly unlike the original?²³

Kircher predicted that every artifact of nature was eventually destined to become something else: volcanoes, perched atop seething pyrophylacia, spewed forth their melted rock into the air, the rock fell to earth, cooled, hardened, and was eroded by rain. As water leached the volcanic minerals back into the soil, it also washed mountains into the sea, where huge underwater vortices, like Charybdis in the Straits of Messina and the Maelstrom off the coast of Norway, sucked cascades of water into the earth's hydrophylacia.

²¹ The term was revived in the early twentieth century by the great Swedish chemist Svante Arrhenius to refer to the possibility that terrestrial life derived from spores carried through outer space; see Arrhenius 1908.

²² Kircher, *Mundus Subterraneus*, 2:347.

²³ Kircher, *Mundus Subterraneus*, 2:369.

The force that bound the four elements together in chemical compounds was magnetism, which operated for Kircher much as gravity would shortly do for Newton. Magnetism pulled the stars and planets into their orbits, pulled ivy around trellises and sunflowers toward the sun; it caused animals to mate, worms to wiggle, and human beings to love. Kircher's world was a world charged with eros, which he regarded as the unmistakable trace throughout Creation of a loving God.

Gian Lorenzo Bernini must have been aware of at least some of these aspects of Kircher's thought. He was a learned artist with a substantial personal library.²⁴ His own intellectual life, like that of Kircher, initially gravitated around the influential nephew of Pope Urban VIII, Cardinal Francesco Barberini, so much so that Bernini suffered from the association on Urban's demise. And one of the stars in Cardinal Francesco's firmament was certainly Athanasius Kircher, whose position at the Collegio Romano had been arranged by the cardinal in order to satisfy his own curiosity about Egyptian hieroglyphs. Other aspects of Kircher's work would have been no less stimulating to this most theatrical of artists, including the Jesuit's mastery of special effects with sound and light and his magnet-driven automata. It is not surprising, therefore, that the hollow rock that forms the base of Bernini's Fountain of the Four Rivers should look so much like a hydrophylacium. In every sense, it is one.

Fountain design in Rome had concentrated for centuries, if not millennia, on the visual harmony and symbolic charge of water and rock. The city even today is surrounded by artesian springs, sylvan waterfalls, and dramatic rock formations of limestone and volcanic tufa, which once included Rome's proverbial Seven Hills. Before the advent of urban sprawl the powerful forces that had shaped this natural setting were far more evident.²⁵ Ancient Romans, accordingly, personified their springs as wise nymphs and their rivers as wild, muscular men with literally flowing hair and beards.²⁶ Christians found an image of their faith in the biblical episode of Moses striking water from a rock in the desert, and the theme had been used in the late sixteenth century for a fountain erected on the Quirinal Hill by Pope Sixtus V, famous for its Egyptian lions calmly spitting streams of water and notorious for its portly, awkward Moses. But Bernini's artistic emphasis on rock itself was a novelty, the invention of an inspired sculptor who knew and respected stone as few others, and exploited the contrast between the pocked white surface of travertine and the high rosy polish of Egyptian granite. Even so, Athanasius Kircher's vision of the geocosmos must have opened Bernini's voraciously observant eyes to a subterranean world that originated with the German Jesuit in the course of what, for all its attendant struggles between doctrine and discovery, continued to be a scientific revolution.

An earlier version of Bernini's design (fig. 11), preserved in the Vatican Library and tentatively dated to 1648, shows only one river god emerging from within the hollow crag,

²⁴ See the inventory of 169 books published by McPhee 2000, representing, in her opinion, "a portion of the library." No books by Kircher are present in the roster, although there are two books by Galileo, the *Dialogue on the Two Chief World Systems*, published in 1632 and put in the *Index* in 1633, and *Two New Sciences* of 1638. My thanks to Sarah McPhee for this reference.

Kircheri è Soc. Jesu Latium: Id est, nova & parallela Latium tum veteris tum novi descriptio. Qua quecumque vel natura, vel veterum romanorum ingenium admiranda effect, geographico-historico-physisco ratiocinio, juxta rerum gestarum, temporumque seriem exponitur & enucleatur. Amsterdam: Apud Joannem Janssonium à Waesberge, & hæredes Elizei Weyerstraet, 1671.

²⁵ Kircher would eventually devote a book to the wonders of Rome's countryside, his *Latium* of 1671, *Athanasii*

²⁶ See also the remarkable study of Holland 1961.

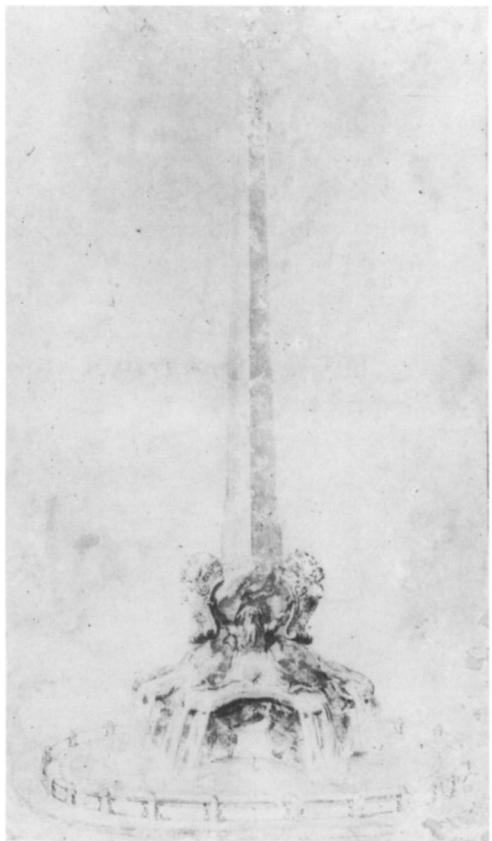


Fig. 11. Gian Lorenzo Bernini, early drawing (1648) for the Fountain of the Four Rivers, Biblioteca Apostolica Vaticana, Archivio Chigi 24926 (photo courtesy of the Biblioteca).

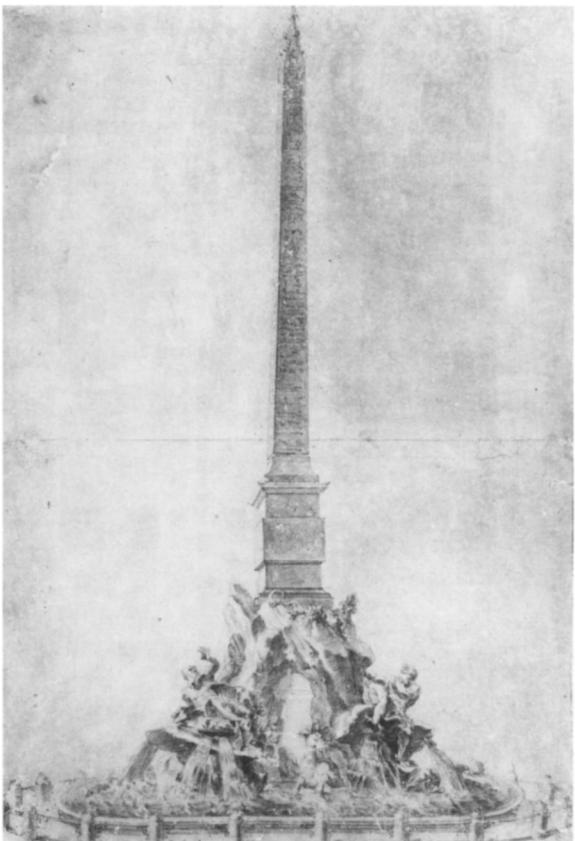


Fig. 12. Gian Lorenzo Bernini, late drawing (1650) for the Fountain of the Four Rivers, Biblioteca Apostolica Vaticana, Archivio Chigi 24925 (photo courtesy of the Biblioteca).

brandishing two papal coats of arms.²⁷ Indeed, this presentation drawing concentrates all its features on one side, focusing on the dramatically canted obelisk, the wild old river god, and his two elaborate shields, which seem to have no symmetrical equivalents to the side or rear of the fountain. In effect, the rendering does not explain a well-worked-out, three-dimensional plan so much as it captures the interplay of several essential elements: the papal arms, the waters, their personification as a river god, the obelisk, and the great hollow mountain on which it stands. In other words, the coupling of obelisk and hydrophylacium constituted the essential idea of the Fountain of the Four Rivers from its first detectable beginnings. Both were powerful forms; the obelisk's stark shape stood as a precious product of refined civilization, replete with solar symbolism. The water gushing forth from stone displayed the elemental forces of earth, but now subjected to human control.

Bernini's final design (fig. 12) differs significantly from the initial rendering. A second drawing in the Vatican Library documents the changes.²⁸ The obelisk has been turned 45 degrees to

²⁷ Biblioteca Apostolica Vaticana, Archivio Chigi 24926.

²⁸ Biblioteca Apostolica Vaticana, Archivio Chigi 24925, dated around 1650.

square with the fountain, and Bernini has now made a detailed attempt to reproduce the hieroglyphic inscriptions—not surprisingly, for in the meantime he and Kircher had collaborated on restoring the obelisk's text, and Kircher had claimed to have read it (compare fig. 13). The river gods have proliferated and taken on distinctive identities: three are visible in the drawing, and the presence of the fourth can easily be inferred. Furthermore, the surface of the rock itself now teems with life: plants and animals of every size—including a giant armadillo like the one displayed in Kircher's own *Musaeum*.²⁹ The hollow mountain itself is much more emphatically a hydrophylacium as Kircher saw them.

The Jesuit, who had been an avid spelunker in the limestone caves of Sicily, conceived these great reservoirs as lofty underground chambers whose rocky vaults soared above huge waterfalls and charging rivers (fig. 14). Although *Mundus Subterraneus* was published only in 1665, its origins reached back to the late 1630s and the published book itself incorporated decades-old material (he already mentions hydrophylacia in his *Magnes* of 1641), not only ideas and passages of written text, but also Kircher's enthusiastically clumsy sketches.³⁰ Many of these illustrations are still preserved in the National Library in Rome as part of the original autograph manuscript of the *Mundus Subterraneus*. Particularly, a lurid rendering of the eruption of Mount Etna, done in pencil with generous strokes of red paint for the lava, certainly dates from his Sicilian trip of 1637–1638 and is obviously executed, at least in part, by a more gifted artist than Kircher himself. His drawing of Vesuvius and other drawings of hydrophylacia, however, show the touch of his own hand and are stuck into his manuscript with fat drops of red sealing wax, deployed no more gracefully than Kircher plied a pen.³¹

If professional book engravers were able to turn Kircher's crude sketches into polished works of art, the brilliant Bernini could surely have done no less. His fountain in Piazza Navona, gushing water from cavernous overhangs and through hidden channels, begins with the conceit that its stony crags are the source from which the waters of the whole world spring forth, and it is no wonder that this most theatrical of designers should have envisioned the primal source as grand architecture. At the same time, however, the Fountain of the Four Rivers presents an architecture emphatically shaped by the ideas of Athanasius Kircher, ever more so as its design proceeded from initial thought to final execution.³² Everywhere, the stone springs to life, as plants and animals and colossal river gods. A sea monster capers in the fountain's basin, a spirited sea horse gambols above the water's surface, and a thirsty lion bends to drink with feline dignity.

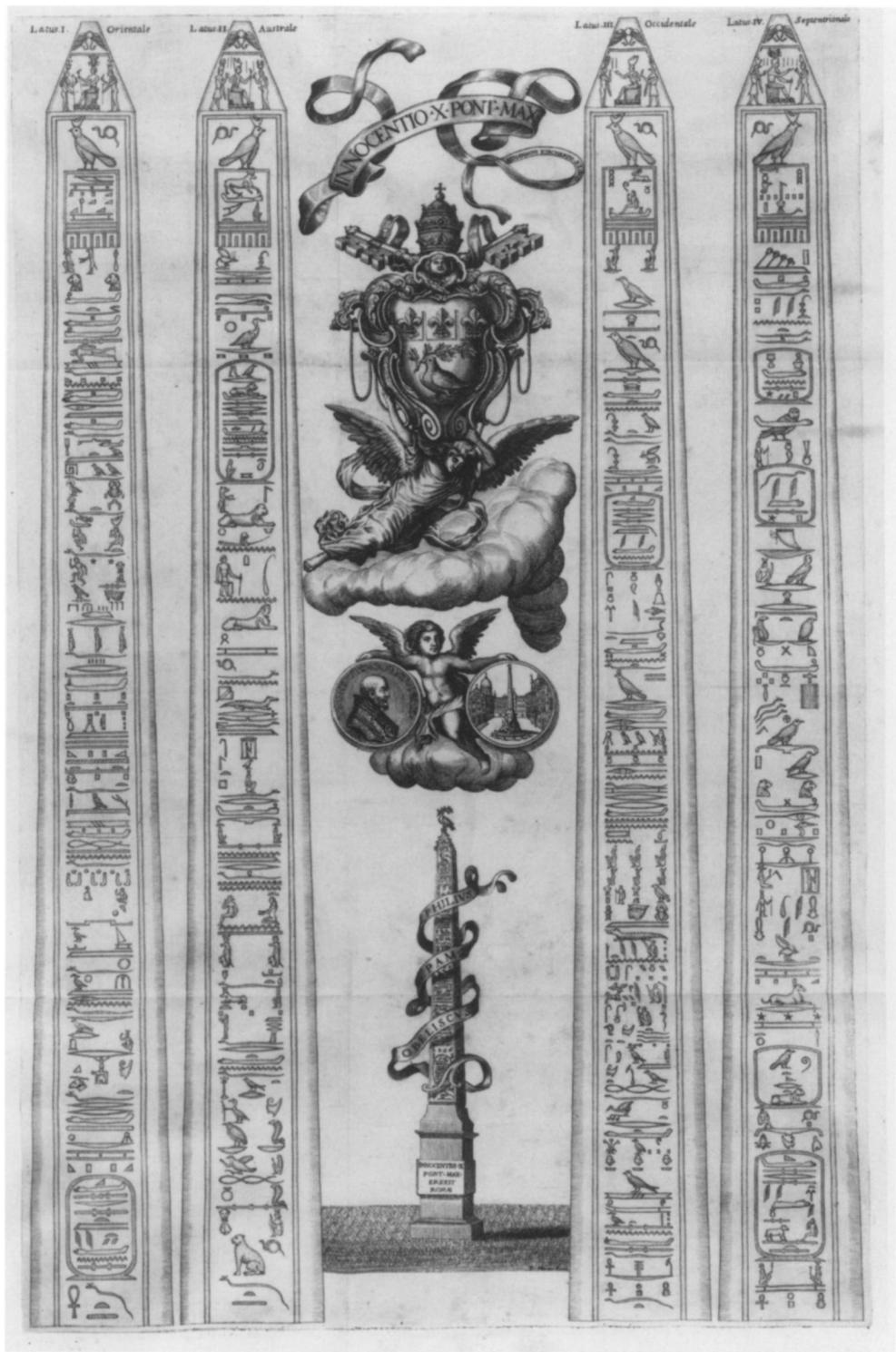
²⁹ For this observation I am grateful to Eugenio Lo Sardo. See also Capanna 2001, 175, figs. 75 and 76.

³⁰ Kircher, *Magnes sive de Arte Magnetica*, pp. 632–633: “Aqua igitur per universae terrae poros sese insinuans, aërem secum copiosum trahit, qui quidem labentium in subterraneis catacupsis aquarum impetu et violentia compressus, per poros terrae in vasta antra, sulphure, nitro, vitriolo, aliisque combustibilibus materiis [633] referta compingitur.” Apparently he had not yet invented the term *hydrophylacium*.

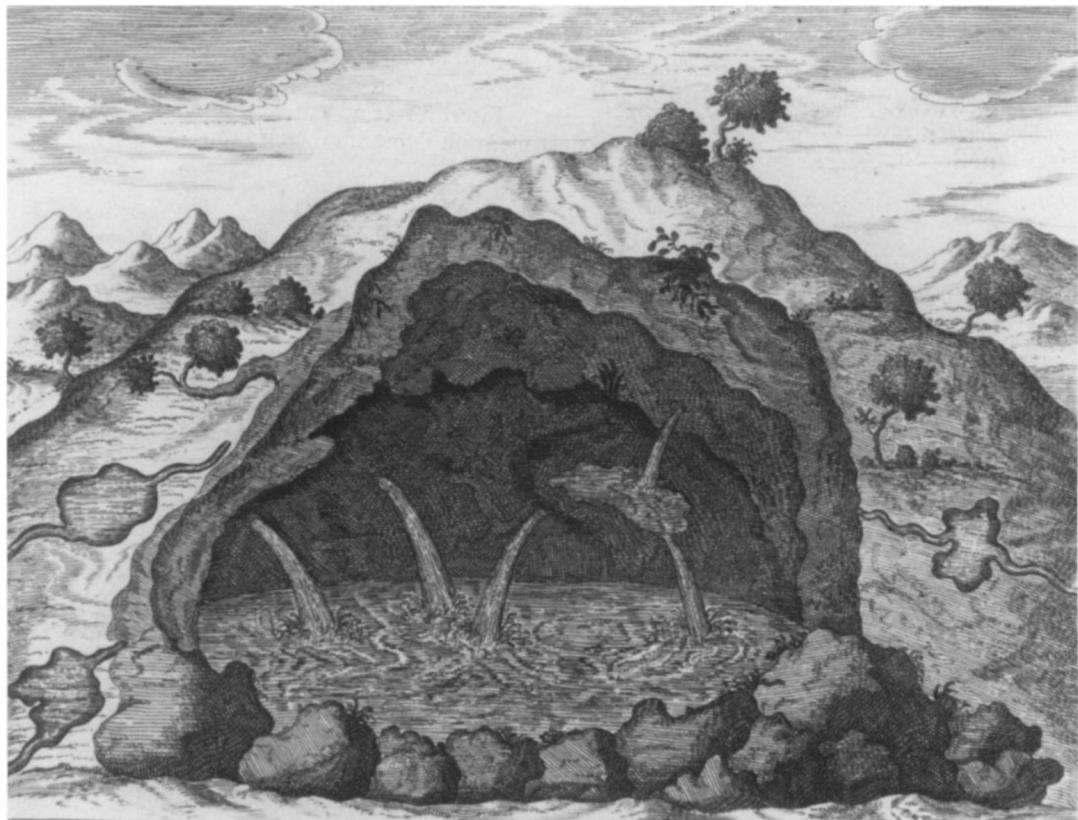
³¹ The drawing of Etna is now beautifully reproduced in Morello 2001, 178, fig. 78. The Kircher manuscript containing volume 1 and the introduction to the *Mundus Subterraneus* is Rome, Biblioteca Nazionale Centrale,

Fondo Gesuitico 562, an Athanasius Kircher autograph with printer's ink smudges containing Kircher's own charmingly crude drawings: 59v (hydrophylacium), 101r (Pyrophylacia and hydrophylacia of the earth), 160r (hydrophylacium), 161r (Chinese hydrophylacium), 162r (eruption of Vesuvius), 163r (African hydrophylacium), 164v (eruption of Mt. Etna), 165r (Alpine hydrophylacium), 166r (South American hydrophylacium). With the exception of 164v, these are pen and pencil sketches by Kircher himself.

³² Gramiccia 1981, 123–125: compare the early (ca. 1648) design of Archivio Chigi 24926 with the later (ca. 1650), more craggy Archivio Chigi 24925. Borromini's design is in Vat. lat. 11258.



*Fig. 13. Pamphilii Obelisk, from *Obeliscus Pamphilii* (separate foldout illustration) (photo courtesy of the Department of Special Collections, Getty Research Institute).*



*Fig. 14. Hydrophylacium, from Mundus Subterraneus, vol. 1
(photo courtesy of the Department of Special Collections, Getty Research Institute).*

As the real source for this glorious fertility of imagination, Kircher's *Obeliscus Pamphiliius* diplomatically points to Pope Innocent himself.

It pleased His Beatitude to raise the Obelisk above a fountain in the form of a hollow crag. Furthermore, on the four sides of the crag he wanted to insert as many colossal statues, equipped with various symbols as decoration, which would display the four-sided face of the World graphically in their symbols. And from vessels or libation-cups, which they clutch in their arms, a four-part surge of water would cascade as if down the waterfalls of precipitous cliffs with a joyous murmur and commotion into a huge basin beneath the rocks.³³

In fact, the fountain's immediate inventor must have been Bernini himself, especially if there is any truth to the anecdote that he had first created a little silver model to catch the pope's eye and win the commission away from Borromini. However, the obelisk's presence in any scheme for the fountain, by any designer in these years, would suggest the presiding genius of Athanasius Kircher, the sole person *urbi et orbi* who was believed capable of inter-

³³ Kircher, *Obeliscus Pamphiliius*, p. e recto: "placuit Beatitudini Suae Obeliscum suprà fontem in rupis formam excavatum exaltare. In rupis verò quadripartitis lateribus totidem inseri voluit Colosso, vario symbolorum apparatu insignitos, qui quadripartitam Mundi faciem symbolis suis

graphicè exhiberent; E crateribus verò sive phialis, quas brachio stringunt, quadripartitis aquarum fluxus veluti per salebrosas rupis catadupas in subiectam rupi vastissimam concham iucundo [e verso] murmure strepituerunt."

preting its meaning, and certainly not a man to be reticent about his skill. Kircher's Egyptology was the reigning Egyptology of his age. Bernini's surprise in Piazza Navona is the incorporation of Kircher's geology as well.

Bernini and Kircher would collaborate once again on a similar project, when the artist designed a base for the so-called Minervan Obelisk at the behest of their mutual friend, Pope Alexander VII. Once again Kircher would publish an occasional book on the subject, *Obelisci Aegyptiaci Interpretatio Hieroglyphica*, and once again his own contribution would figure far more emphatically in his account than that of his collaborator.³⁴ Nonetheless, several of Bernini's early designs for the project likewise incorporated crags as a suitable setting for an Egyptian obelisk.

The message that Kircher may have understood such an ensemble of raw travertine and polished granite to convey is one that he enunciated clearly and repeatedly in *Mundus Subterraneus*: the physical world is one of perpetual flux in which only God's truth is stable and immutable.

But the Conversions of the Terrestrial Globe are so large and so horrible that they lay bare both the infinite power of GOD and the uncertainty of human fortune, and warn the human inhabitants of this Geocosmos that as they recognize that nothing is perpetual and stable, but that all things are fallible, subject to the varying fates of fortune and mortality, they should raise their thoughts, studies, soul and mind, which can be satisfied by no tangible object, toward the sublime and eternal Good, and long for GOD alone, in whose hands are all the laws of Kingdoms, and the boundaries of universal Nature.³⁵

Elsewhere in *Mundus Subterraneus*, he writes:

Rivers change their banks and their accustomed courses; flourishing Empires perish; and all the terrible massacres that display Divine power likewise make plain the uncertainty of human destiny, and warn the mortal inhabitants of this Geocosmos that just as nothing is stable, nothing perpetual, but all things are fallible, beset by the various calamities of fortune, the various and unexpected devices of the world, let them know that every effort of the mind, every striving, all those minds that can never be satisfied by any created thing should raise their powers to the possession of heavenly goods, and insist upon GOD alone as their Center, in whose hand rest all the Laws of Kingdoms and all the ends of the Earth.³⁶

Above the peak of the Pamphili Obelisk flies a brazen dove with an olive branch in its beak, symbolic of the Pamphili family, but also, of course, of peace, specifically that Christian "peace of God, which passeth all understanding,"³⁷ and above the dove, a bristling star that presumably signifies the very star whose rays Egyptian obelisks were designed to attract: the Sun. Kircher's friend James Alban Gibbes, an expatriate physician and poet, understood the fountain as presenting "th' united sense of th' Universe." In a poem that served as preface to *Oedipus Aegyptiacus*, Gibbes connected the wisdom of Egypt, the advances of contemporary science, and the ageless cosmopolitan culture of Rome; those verses once again serve the same purpose, as epigraph to the present article.

For three and a half centuries since, this assemblage of stone, water, and bronze has

³⁴ Kircher, *Obelisci aegyptiaci*, 1666.

³⁶ Kircher, *Mundus Subterraneus*, 1:76.

³⁵ Kircher, *Mundus Subterraneus*, 1:83.

³⁷ Philippians 4:7.

continued to bring refreshment to the senses of those who experience the travails of this changeable geocosmos.³⁸ For most, Bernini's design revives the spirit as well, fulfilling the Jesuit mission "to comfort souls" by fantasy, humor, and a scheme so clever that it almost inevitably invites a more profound solace than "wonderment for idiots."³⁹

³⁸ For the poor of Rome, more tangible refreshment would have been preferable. A poignant contemporary poem said: "Noi volemo altro che Guglie, e Fontane. Pane vorremo—Pane, pane, pane." ("We don't want obelisks and fountains, we want bread. Bread, bread,

bread.") See Haskell 1980, 150.

³⁹ But not always. The Danube lost his middle finger in the 1970s and in 1999 a Roman *cafone* decided to climb the sea serpent's tail and snapped it off.

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_____, *Athanasii Kircheri . . . Prodromus coptus sive aegyptiacus . . . in quo cum linguae coptae, sive aegyptiacae, quondam pharaonicae, origo, aetas, vicissitudo, inclinatio: tum hierographicae literaturae instauratio, uti per varia variarum eruditiorum, interpretationumque difficillimarum specimina, ita nova quoque & insolita methodo exhibentur* (Rome 1636).

_____, *Athanasii Kircheri . . . Magnes; siue, De arte magnetica opus tripartitum. Quo praeterquam quod universa magnetis natura, eiusque in omnibus artibus & scientijs usus nova methodo explicetur, e viribus quoque & prodigiosis effectibus magneticarum, aliarumque abditarum naturae motionum in elementis, lapidibus, plantis, animalibus elucescentium, multa hucusque incognita naturae arcana per physica, medica, chymica & mathematica omnis generis experimenta recluduntur* (Rome 1641).

_____, *Obeliscus Pamphilii, hoc est, Interpretatio nova & hucusque intentata obelisci hieroglyphici quem non ita pridem ex veteri hippodromo Antonini Caracallae caesaris, in Agonale Forum transtulit, integritati restituit, & in Urbis aeternae ornamentum erexit Innocentius X Pont. Max* (Rome 1650).

_____, *Oedipus aegyptiacus, hoc est, Universalis hieroglyphica e veterum doctrinae temporum iniuria abolitae instauratio, opus ex omni Orientalium doctrina & sapientia conditum, nec non viginti diversarum linguarum autoritate stabilitum* (Rome 1652–1654).

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